

### SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

QC GROUP, LLC.<sup>1,2</sup> 5950 Clearwater Drive, Suite 300 Minnetonka, MN 55343-8989 Lee Fletcher Phone: 952 895 1150

leef@qcgroup.com

#### MECHANICAL

Valid To: October 31, 2020 Certificate Number: 1172.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory at the location listed above, as well as the two satellite laboratory locations listed below, to perform the following <u>dimensional tests</u>:

Parameter	Range	CMC <sup>3,4</sup> (±)	Technique/Standard
Workpiece Measurement <sup>5</sup> –			Internal method based on ASME Y14.5 and customer specification
1D	Up to 12 in Up to 1 in Up to 6 in Up to 1 in Up to 1 in	0.0013 in 0.00016 in 0.00015 in 0.00015 in	Calipers Micrometer Depth micrometer Pressure micrometer Gage pins used for attribute/qualitative test
2D	(18 x 18) in (8 x 6) in Up to 4 in	(250 + 7.1 <i>L</i> ) μin 0.00062 in 0.0002 in	OGP - optical CMM Optical comparator Toolmaker's microscope
3D	Up to 8 ft (spherical range)	(1100 + 11 <i>L</i> ) μin	Faro Arm CMM (Platinum)
	(28 x 40 x 28) in (40 x 64 x 28) in	(360 + 14 <i>L</i> ) μin (40 + 18 <i>L</i> ) μin	CMM (UHA) CMM (Scanning)
Flatness <sup>5</sup>	Up to 0.008 in	0.00025 in	Internal method based on ASME Y14.5 and customer specification; dial indicator

<sup>&</sup>lt;sup>1</sup> This accreditation covers testing performed at the main laboratory listed above, and the following satellite laboratories listed below:

(A2LA Cert. No. 1172.01) 12/07/2018

### QC GROUP, LLC.<sup>2</sup>

1451 Innovation Parkway SE, Suite 650 Albuquerque, NM 87123

leef@qcgroup.com

Phone: 952 895 1150

Lee Fletcher

Parameter	Range	CMC <sup>3,4</sup> (±)	Technique/Standard
Workpiece Measurement <sup>5</sup> –			Internal method based on ASME Y14.5 and customer specification
1D	Up to 12 in	0.0013 in	Calipers
	Up to 1 in	0.00016 in	Micrometer
3D	(16 x 16 x 12) in	(11 + 25 <i>L</i> ) μin	Optiv CMM
	(28 x 40 x 28) in	(360 + 14 <i>L</i> ) μin	CMM (UHA)

QC GROUP, LLC.<sup>2</sup>
4100 West Royal Lane, Suite 125
Irving, TX 75063
Lee Fletcher Phone: 952 895 1150

leef@qcgroup.com

Parameter	Range	CMC <sup>3,4</sup> (±)	Technique/Standard
Workpiece Measurement <sup>5</sup> –			Internal method based on ASME Y14.5 and customer specification
1D	Up to 12 in	0.0013 in	Calipers
	Up to 1 in	0.00016 in	Micrometer
3D	(16 x 16 x12) in	(11 + 25 <i>L</i> ) μin	Optiv CMM
	(28 x 40 x 28) in	(360 + 14 <i>L</i> ) μin	CMM (UHA)

<sup>&</sup>lt;sup>2</sup> This laboratory offers commercial dimensional testing services only.

Lange

<sup>&</sup>lt;sup>3</sup> Calibration and Measurement Capability Uncertainty (CMC) is the smallest uncertainty of measurement that a laboratory can achieve within its scope of accreditation when performing more or less routine measurements of nearly ideal measurement standards or nearly ideal measuring equipment. CMC's represent expanded uncertainties expressed at approximately the 95 % level of confidence, usually using a coverage factor of k = 2. The actual measurement uncertainty of a specific measurement performed by the laboratory may be greater than the CMC due to the behavior of the customer's device and to influences from the circumstances of the specific measurement.

<sup>&</sup>lt;sup>4</sup> In the statement of CMC, L represents the nominal length of the device measured in inches.

<sup>&</sup>lt;sup>5</sup> This test is not equivalent to that of a calibration.



# Accredited Laboratory

A2LA has accredited

## QC GROUP, LLC

Minnetonka, MN

for technical competence in the field of

## Mechanical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).

SEAL 1978 A 2LA

Presented this 7th day of December 2018.

President and CEO

For the Accreditation Council Certificate Number 1172.01 Valid to October 31, 2020